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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/679,921	10/06/2003	David Thomas Black	60680-730	2906
26127	7590	08/28/2006	EXAMINER	
DYKEMA GOSSETT PLLC 39577 WOODWARD AVENUE SUITE 300 BLOOMFIELD HILLS, MI 48304-5086			HAMO, PATRICK	
			ART UNIT	PAPER NUMBER
			3746	

DATE MAILED: 08/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/679,921

Applicant(s)

BLACK ET AL.

Examiner

Patrick Hamo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/01/03, 04/15/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Magnetically Coupled Viscous Fluid Pump.

3. The disclosure is objected to because of the following informalities: on page 6, line 4, of the specification, reference character 16 is used to designate "disc pack", whereas "disc pack" had been designated reference character 14 in the drawings and all other instances of reference in the description of the drawings.

Appropriate correction is required.

Drawings

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 46. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid

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abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 2, 3, 4, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berner 2,970,548 in view of Dial 6,375,412.

Berner discloses the invention substantially as claimed including magnetically driven pump including a driving part (20) and a pumping part (28), a type of pump well known at the time of invention (column 1, lines 16-18). The two parts are coupled by two groups of permanent magnets, one group of permanent magnets for each of the two parts (column 1, lines 18-21), mounted for rotation about the same axis as that of the driving and pumping parts (figure, cover page) for the purpose of complying with varying requirements of torque transfer (column 2, lines 39-48). Furthermore, in the

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broadest reasonable interpretation, one of the two groups of permanent magnets constitutes an electrically conductive part, thereby reading on claim 2.

Berner does not disclose a plurality of generally parallel planar elements all mounted for rotation about a first axis.

However, Dial teaches a plurality of generally parallel, planar, co-axial discs (25) all mounted for rotation about an axis (column 7, lines 23-26) that may be used in pumps of various types (column 1, lines 10-13).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to have modified Berner's invention with that of Dial in order to make a turbopump as described by Dial (columns 5-10) that more efficiently displaces fluids without introducing unnecessary turbulence to the fluid medium and loss of energy transfer through heat and vibrations.

7. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claim 1 above in view of Hayman 6,601,557.

The references as applied to claim 1 above disclose all the limitations substantially as claimed except for an engine including a lubricant pump and an engine including two lubricant pumps.

However, Hayman teaches an engine with two pumps (column 1, lines 43-49) to provide oil to the engine at different pressures corresponding to different engine functions and needs.

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to modify the references as applied to claim 1 above with that

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of Hayman in order to deliver oil to different systems within the engine at different pressures corresponding to the requirements of the specific engine systems.

8. Claims 5 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claim 2 above in view of Weisser 6,213,736.

The references as applied to claim 2 above disclose all the limitations substantially as claimed except for a side wall of the magnet enclosing a generally cylindrical space wherein the electrically conductive part, generally cylindrical as well, is located at least partly. Nor do they disclose that the second pumping part is to be immersed in the liquid to be pumped when in use, and a sealing part provided between the first and second coupling parts, substantially preventing pumped liquid from contacting the first coupling part and the motor.

However, Weisser teaches a magnetic coupling (column 1, lines 56-57) with a first part (11) that has side walls that form a generally cylindrical space wherein the second generally cylindrical part (10) is located. Weisser also teaches a non-rotating cup (12) that is provided between the first and second coupling parts to prevent pumped liquid from penetrating into the motor housing (column 1, lines 57-62), which includes one part of the magnetic coupling, but not the other. In use, the pump is to be immersed in the liquid (Abstract, lines 2-3), the second part of the coupling also being immersed, for the purpose of operating in corrosive and/or hazardous liquids.

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to have modified the references as applied to claim 2 above

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with that of Weisser in order to generate a submergible pump with the ability to operate in corrosive and/or hazardous liquids.

9. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claim 5 above in view of DeLancey 2,230,717.

The references as applied to claim 5 above disclose all the limitations substantially as claimed except for a plurality of elongate copper elements arranged in a generally circular array, a longitudinal axis of each copper element being generally parallel to the axis of rotation, and two generally annular copper plated mounted on either side of the copper elements in contact with the end portions of all the copper elements.

However, DeLancey teaches a pumping means with a magnetic coupling constructed in the same manner as a squirrel cage rotor where a plurality of copper rods (61) are connected at the ends to annular copper rings (62) in order to produce an eddy current in response to a magnetic field for the purpose of driving a pump without a mechanical clutch that can be worn. The copper rods are parallel to the shaft (25) about which rotation occurs, so that a longitudinal axis of each copper element is generally parallel to the axis of rotation.

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to modify the references as applied to claim 5 above with that of DeLancey in order to provide a slip clutch between the motor and the pump to enable slippage without entailing wear.

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10. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied to claim 6 above in view of Chabrierie 4,399,381.

The references as applied to claim 6 above disclose all the limitations substantially as claimed except for a soft iron core included in the electrically conductive part.

However, Chabrierie teaches an arrangement of conductor bars in a bulk of soft iron, constructed by machining notches into the soft iron and injecting molten copper into the notches, forming a cast assembly of small bars and their associated conductive rings (column 4 lines 36-44) in order to produce an extremely intense current in the small bars and decrease the number of inductive ampere turns required with the use of laminate sheets of iron.

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to modify the references as applied to claim 6 above with that of Chabrierie in order to avoid counterproductive magnetic fields produced by electric currents by providing nonmagnetic electrical conductors electrically insulated from any magnets.

Conclusion

Applicant is duly reminded that a complete response must satisfy the requirements of 37 C.F. R. 1.111, including: "The reply must present arguments pointing out the specific distinctions believed to render the claims, including any newly presented claims, patentable over any applied references. A general allegation that the claims

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'define a patentable invention' without specifically pointing out how the language of the claims patentably distinguishes them from the references does not comply with the requirements of this section. Moreover, 'The prompt development of a clear Issue requires that the replies of the applicant meet the objections to and rejections of the claims.'" Applicant should also specifically point out the support for any amendments made to the disclosure. See MPEP 2163.06 II(A), MPEP 2163.06 and MPEP 714.02. The "disclosure" includes the claims, the specification and the drawings.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick Hamo whose telephone number is 571-272-3492. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Stashick can be reached on 571-272-4561. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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PRIMARY EXAMINER